

Application No. 10/014,626
Response dated May 6, 2005
Reply to office action dated February 9, 2005

Remarks/Arguments

Applicant has received and carefully reviewed the Office Action mailed February 9, 2005, setting a three month shortened statutory period for response ending May 9, 2005. Claims 1, 9, 22, -28, and 32 have been amended and new claim 33 has been added. Support for the amendments and new claim can be found in the specification, claims, and drawings as originally filed. No new matter has been added. Claims 1-28, 30, 32, and 33 are pending. Reexamination and reconsideration are respectfully requested.

Interview

Applicant thanks the Examiner for discussing possible claim amendments in a phone conversation on May 5, 2005. The identical claim amendments are presented in this Amendment. The discussion included the differences between the instantly claimed system that combines location data from two or more sensors and the system of Hibino et al., that selects data from a single sensor.

Allowable Subject Matter

Applicant thanks the Examiner for indicating that claims 3-8, 13, and 15 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Rejections under 35 U.S.C. § 102(b)

Claims 1, 2, 9-12, 14, 16-18, and 24-27 are rejected as being anticipated by Hibino et al. (US 5,510,990). Applicant respectfully traverses the rejection. In the Response to Arguments section on pages 8-9 of the Office Action, the Examiner asserts that, with respect to the combining feature, the claims read on Hibino because the claims do not clearly define the step/feature.

Independent claim 1 has been amended to more clearly set forth the system as having a data processor configured to read location data from two or more sensors, combine location data and the associated sensor uncertainty distributions from the two or more sensors, and generate a value indicative of the most likely position of the object.

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Hibino does not appear to teach or suggest combining location data from two or more sensors. Further, Hibino does not appear to teach or suggest using the associated sensor uncertainty distributions from the two or more sensors along with the location data from those sensors in generating a value indicative of the most likely position of the object.

Claim 24 has been amended to clarify the combining and generating steps. Applicant submits that Hibino does not appear to teach or suggest the method steps recited in amended claim 24. As discussed above and in Applicant's Amendment mailed November 22, 2004, Hibino teaches selecting one sensor and analyzes the data from that single sensor. Hibino thus cannot be seen to teach or suggest method steps of combining location data and uncertainty distributions from a plurality of sensors and generating values indicative of the most likely position of the object and generating probability distributions for the most likely position of the object based on the combined location data and uncertainty distributions.

Hibino et al. fails to teach or suggest each element of independent claims 1 and 24 and thus also fails to teach the elements of the claims dependent thereon. Withdrawal of the rejection is respectfully requested.

Rejection under 35 U.S.C. § 103

Claims 19-23, 28, 30, and 32 are rejected as being unpatentable over Hibino et al. Applicant respectfully traverses the rejection.

Claims 19-21 were previously rejected under §102(b). The basis of the rejection has been changed to §103, suggesting that Hibino et al. do not teach the elements of the claims but rather somehow render the claims obvious. However, the Examiner has not indicated how the claim limitations are obvious in view of Hibino.

Claim 19 recites that the system is adapted for tracking the relative location of a plurality of objects. Hibino et al. also fail to teach or suggest this feature. The system of Hibino et al. appears to be directed to the determination of the distance between a car and a single car or object in front of it. Applicants have carefully reviewed the Hibino et al. reference and have found no teaching or suggestion that the system can track the relative location of a plurality of objects. The Examiner points to column 11, lines 52-62 of

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Hibino et al. for a teaching of tracking the relative location of a plurality of objects. This portion of Hibino et al., however, actually teaches the embodiment having three distance sensors, one for forward detection, one for leftward detection, and one for rightward detection. As stated above, in this embodiment, Hibino et al. teach the system selecting one of the detectors as providing the most accurate distance to an object preceding the car. Even if each of the three detectors detected a different object, the system of Hibino et al. selects only one detector and uses its data for further calculations, discarding the data from the other two detectors. This is based on the assumption that the other detectors likely detected billboards or highway signs instead of a car. Hibino et al. do not teach or suggest their system as tracking the relative location of a plurality of objects, as is recited in claim 19.

Also, claim 20 recites that the system includes a plurality of radar systems and claim 21 recites the plurality of sensors includes a plurality of beacon systems. The Examiner points to column 2, lines 11-13 of Hibino et al. as teaching these elements. The portion of Hibino et al. on which the Examiner relies merely describes the invention as providing an automotive radar system. There is no teaching or suggestion in Hibino et al. of their system involving a plurality of radar or beacon systems. Withdrawal of the rejections is respectfully requested.

Independent claim 22, as amended, recites a system involving a plurality of local systems each having a plurality of sensors, in which each of the local systems transmits values indicative of the most likely position of an object to a central processing center for determining the global position of the object. Applicant submits that Hibino does not appear to teach or suggest such a system. As acknowledged by the Examiner, Hibino only selects one of a plurality of sensors. Hibino does not appear to teach or suggest a central processing center that receives data from each of a plurality of local systems, each having a plurality of sensors.

Independent claims 28 and 32 have been amended to clarify the combining and generating steps as involving data from a plurality of sensors. Hibino et al. teach a single radar system in a car for detecting a preceding car and adjusting speed accordingly. There is no motivation for modifying the system of Hibino et al. to include a plurality of

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local systems because the system is concerned with what objects may be in front of a single car. Adding more systems would be redundant.

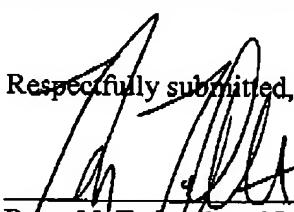
The Examiner cites case law in support of the statement that while Hibino et al. do not disclose local systems, it would have been obvious to make a plurality of local systems as claimed because mere duplication of essential working parts of a device involves only routine skill in the art. Applicants respectfully disagree. The claimed system does not involve mere duplication of essential working parts of a device. The claimed system and methods involve combining the location data received from the plurality of local systems and generating the most likely position of the object based on the data from the plurality of systems. As stated above, Hibino et al. teach selecting the data from one out of three sensors in a system for further calculations. Duplicating the essential elements of Hibino et al. would result in more than three sensors being used, but still selecting only one sensor as providing the most likely distance to the preceding vehicle. Thus, even if one were to duplicate the elements of Hibino et al, one does not achieve the instantly claimed invention.

In view of the foregoing, it is believed that all pending claims 1-28, 30, 32 and 33 are in condition for allowance. Issuance of a notice of allowance in due course is respectfully requested. If a telephone conference would be of assistance, please contact the undersigned attorney at 612-359-9348.

Respectfully submitted,

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Brian N. Tufte, Reg. No. 38,638
CROMPTON SEAGER & TUFTE, LLC
1221 Nicollet Avenue, Suite 800
Minneapolis, MN 55403-2402
Telephone: (612) 677-9050
Facsimile: (612) 359-9349